

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>MA3 03064PCT</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/FR2004/001840</b>	International filing date (day/month/year) <b>13.07.2004</b>	Priority date (day/month/year) <b>23.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C03B37/04, B32B17/02, B32B15/04, D04H1/70, B29C67/24</b>		
Applicant <b>SAINT-GOBAIN ISOVER</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FR2004/001840

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages 1-13 \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. 1-16 \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the drawings:
    - sheets 1/3-3/3 \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-16</u>	YES
	Claims	<u></u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1-16</u>	NO
Industrial applicability (IA)	Claims	<u>1-16</u>	YES
	Claims	<u></u>	NO

**2. Citations and explanations (Rule 70.7)**

1. In the present report, reference is made to the following documents:

D1: FR 2 745 597 A (SAINT GOBAIN ISOVER) 5 September 1997 (1997-09-05)

D2: EP 0 449 414 A (SIDERISE LTD) 2 October 1991 (1991-10-02)

D3: WO 01/38245 A (SAINT GOBAIN ISOVER; DECKER PASCAL (FR); GUYOT DANIEL (FR); PIERUCCI) 31 May 2001 (2001-05-31)

2. The international application relates to an insulating structure, which includes a mineral-fibre-based core obtained using an internal centrifuging method associated with drawing by means of a flow of gas at high temperature (claim 1), a method for producing said structure, which includes cutting the creped product into strips (claim 13) and a construction method using an architectural insulating element made by assembling the sandwich structures of claim 1 (claim 15).

**PCT Article 33(2) and (3)**

INDEPENDENT CLAIMS

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

3.1 D3 (the references between parentheses apply to said document) discloses a method for producing mineral fibres, in particular creped fibres (claim 23). The thermal or sound insulation product thus obtained has a density between 40 and 160 kg/m<sup>3</sup>, preferably 80 kg/m<sup>3</sup>, and a compressive strength of approximately 60 kPa at a thickness of approximately 50 mm (claim 24).

D1 describes a multi-layered insulating structure that includes a rigid plate and a glass fibre mat. Said mat consists of three-dimensionally-distributed glass fibers (claim 1) and said three-dimensional distribution is achieved by creping the mat during the production of the latter (claim 7). The crepe ratio is between 1.5 and 6 and preferably between 3 and 3.5 (claim 8).

3.2 The present application meets the requirements of PCT Article 33(2).  
Claims 1 and 13 include as a feature the presence of two cladding elements.  
This feature is not known from D1 and D3.  
On the other hand, D2 differs from the set of claims in that the mineral fibres are not creped.

3.3 The characterising part of claim 1 is known from several documents cited in the international search report.  
The key sentence appears in lines 26 to 28 on page 2 of the description:

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Although producing mineral-fibre-based felts or mats by internal centrifuging is known, such felts have never been used for manufacturing sandwich structures.

However, the teaching of D1 relates to a composite insulating element and it is known to provide such an insulating element with a rigid sheet, either on one surface only or on both surfaces, as illustrated in figure 2 of D2.

Furthermore, said document teaches the steps of the method of the present claim 13, with the exception of creping (see lines 21 to 55 of column 1).

Taking the teaching of D1 as the starting point, a person skilled in the art would arrive at the features of claims 1 and 13 without exercising inventive skill by including the considerations relating to the mechanical properties set forth in D2.

- 3.4 When the strips obtained by cutting a creped felt are turned through 90°, a V-shaped profile is created and, when assembled in parallel, the ridges of each strip are inevitably aligned.

Claims 2 to 4 therefore only include features that can be derived in an obvious manner from the prior art.

The density of a mineral fibre mat or felt is known from D1 (the present claim 5) and the compressive strength or shear strength is a property of the mineral fibres selected.

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With regard to the selection of mineral fibres, there is no difference between the teaching of D2 and the present set of claims.

The preference for fibres made of glass, as illustrated by claims 8 to 10 (boric, sodocalcic or aluminosilicate glass), is a selection that does not require inventive skill.

D2 suggests cladding elements made of metal (column 1, line 51).

D2 envisages their use for sound and/or thermal insulation and for construction (column 1, lines 1 to 4).

Embedding such panels is well known in this technical field.

With regard to inventive step, dependent claims 11, 12 and 16 add nothing.

Note also that the first part of claim 14 reflects the prior art detailed in lines 24 to 31 of the paragraph on page 3 of D1.

Reducing the thickness during creping by a height to final thickness ratio of 1.2 is the standard (see lines 4 to 11 on page 9 of the description).

- 3.5 Consequently, the claims contain no features which, when combined with the features of any one of the claims to which they refer, meet the PCT requirements of inventive step.

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Box No. VIII      Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1.      Claims 2 to 4 refer to themselves.